

Running lights with EMMA II

1. Connect the D0-D7 inputs on the I / O MONITOR plate to the PB0-PB7 outputs of EMMA II. Check that the I / O MONITOR plate is in READ mode.
2. Connect 0V and +5V to both EMMA II and I / O MONITOR plates.
3. Enter the program on the following page in EMMA II. Double check that it is correctly entered.
4. Start the program at address 0200 and enjoy!
5. Use RESET on EMMA II to cancel the program.
6. Try changing the speed of the program by changing the value of address 022B.

Running lights

Address	Kod	Assembler	Kommentar
0200	A9 FF	LDA #FF	; Initialize P _{B0} -P _{B7}
0202	8D 02 09	STA 0902	; to outputs
0205	A9 80	LDA #80	; Starting value A = 10000000 ₂
0207	8D 00 09	STA 0900	; Write to P _{B0} -P _{B7}
020A	20 2A 02	JSR 022A	; run the delay routine
020D	C9 01	CMP #01	; One has been replace, right ?
020F	F0 05	BEQ 05	; If true, jump to address 0216
0211	18	CLC	
0212	6A	ROR	; Rotate one step to the right
0213	4C 07 02	JMP 0207	; Skip back to address 0207
0216	A9 02	LDA #02	; Starting value A = 00000010 ₂
0218	8D 00 09	STA 0900	; Write to P _{B0} -P _{B7}
021B	20 2A 02	JSR 022A	; Run the delay routine
021E	C9 80	CMP #80	; One has been shifted to the left ?
0220	F0 05	BEQ 05	; If true, jump to address 0227
0222	18	CLC	
0223	2A	ROL	; Rotate one step to the left
0224	4C 18 02	JMP 0218	; Skip back to address 0218
0227	4C 0D 02	JMP 020D	; Repeat the program
022A	A0 88	LDY #80	; Delay routine starts here
022C	A2 88	LDX #80	
022E	CA	DEX	
022F	D0 FD	BNE FD (-3)	
0231	88	DEY	
0232	D0 F8	BNE F8 (-8)	
0234	60	RTS	